

REMARKS/ARGUMENTS

With this amendment, claims 1-15 and 17 are pending. Claims 1, 7, 15, and 17 have been amended. Claim 16 has been canceled. No new matter has been added.

I. Claim Rejections Under 37 CFR 1.75 (c)

Claim 7 is objected to under 37 CFR § 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Claim 7 has been amended to further limit the subject matter of the claim 1. As amended, claim 7 recites "the method of claim 1 wherein said first cell design differs from said second cell design with respect to cell density." Support for this amendment is found on page 9: 4-14 of the originally filed specification.

II. Claim Rejections Under 35 U.S.C. §112

Claim 15 is rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Applicants respectfully disagree because the originally filed specification shows a plurality of terminating cells disposed about a periphery of the active region. See page 2:10-16 and page 3: 20-25.

Nonetheless, in order to move examination of this application forward, claim 15 has been amended to recite "the method of claim 1 wherein said first cell design differs from said second cell design with respect to pitch of gate stripes of each cell design." Support for this amendment is specifically found on page 11: 25- page 12: 10 of the original specification. Claim 15 should be allowable because as amended it is definite and fully supported by the original specification.

III. Claim Rejections Under 35 U.S.C. §102(e)

Claims 1-3, 7, 9, 10, 12 and 14 are rejected under 35 U.S.C. § 102(e) as being clearly anticipated by Dupuy et al. (U.S. Patent No. 6,140,184). Allowance of the claims are respectfully requested for the reasons discussed in this response in view of the amended claims.

As amended, the claims are allowable because each and every limitation is not shown or disclosed by the cited reference.

Claim 1 has been amended to further distinguish it from Duputy. Claim 1 has been amended to recite:

"A method for manufacturing a semiconductor power device, comprising:
identifying an active region on a semiconductor die, the active region having a central portion, a first peripheral portion disposed about a periphery of said central portion, and a second peripheral portion disposed about a peripheral region of said first peripheral portion;
identifying a first region in said central portion of said active region;
identifying a second region in said first peripheral portion of said active region;
identifying a third region in said second peripheral portion;
fabricating active cells in accordance with a first cell design in said first region;
fabricating active cells in accordance with a second cell design in said second region, wherein an operational current density of said active cells fabricated according to said second cell design is greater than that of said active cells fabricated according to said first cell design, and
fabricating active cells in accordance with a third cell design in said third region, wherein the operational current density of said active cells fabricated according to said third cell design is greater than that of said active cells fabricated according to said second cell design."
(emphasis added).

According to an aspect of the present invention, the operational current density of active cells is reduced as one moves from the outer periphery of the active area toward a central portion of the active area. Thus, cells located in the central portion of the active area produces less current density under the same biasing condition than the active cells located further away from the central portion. Therefore, the operational current density of active cells in the third region is greater than that of active cells in the second region. Also, the operational current density of active cells in the second region is greater than that of active cells in the first region. Support for this amendment can be found specifically in Fig. 1 and on page 8: 33 - page 9: 3 of the originally filed specification. This added feature is not shown or disclosed in Duputy.

For at least this reason, claim 1 should be allowable because Dupuy does not disclose or suggest each and every limitation of the claim 1. Claims 2-3, 7, 9, 10, 12 and 14

depend from claim 1 and should be allowable for at least similar reason as claim 1 and for the additional limitations they recite.

IV. Claim Rejections Under 35 U.S.C. §102(b)

Claims 1, 3-5, 8, 15 and 16 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ito et al. (JP 9-129878). As amended, the claims are allowable because each and every limitation is not shown or disclosed by Ito et al.

Claim 1 now recites in part "fabricating active cells in accordance with a second cell design in said second region, wherein an operational current density of said active cells fabricated according to said second cell design is greater than that of said active cells fabricated according to said first cell design, and fabricating active cells in accordance with a third cell design in said third region, wherein the operational current density of said active cells fabricated according to said third cell design is greater than that of said active cells fabricated according to said second cell design." Ito does not disclose or suggest at least the above-identified feature.

For at least this reason, claim 1 should be allowable because Ito does not disclose or suggest each and every limitation of the claim 1. Claims 3-5, 8, and 15 depend from claim 1 and should be allowable for at least similar reason as claim 1 and for the additional limitations they recite.

V. Claim Rejections Under 35 U.S.C. §102(b)

Claims 1, 6, 11, 13, and 17 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Colwell et al. (U.S. Patent No. 6,917,207). As amended, the claims are allowable because each and every limitation is not shown or disclosed by Colwell et al.

Claim 1 now recites in part "fabricating active cells in accordance with a second cell design in said second region, wherein an operational current density of said active cells fabricated according to said second cell design is greater than that of said active cells fabricated according to said first cell design, and fabricating active cells in accordance with a third cell design in said third region, wherein the operational current density of said active cells fabricated

according to said third cell design is greater than that of said active cells fabricated according to said second cell design."

Colwell does not disclose or suggest at least the above-identified feature for the following reasons. In Colwell, the operational current density of the third group transistors (171) is not greater than that of the first group transistors (154) because the transistors of third group 171 have a substantially shorter gate width than the transistors of first group 154 ("the transistors of third group 171 have a substantially shorter gate width than the transistors of first group 154 and second group 152.") See Col. 7:10-13 of Colwell.

Colwell further discloses that the transistors of the second group 152 mirror the transistors in the first group 154, but are of opposite type (i.e., the second group transistors are p-type transistors). See Col. 7: 53-55 of Colwell. This means that the operational current density of the first and second group transistors may not be compared under the same bias condition and accordingly the current density relationship between the two groups of transistors are not clearly disclosed or suggested in Colwell.

For at least this reason, claim 1 should be allowable because Colwell does not disclose or suggest each and every limitation of the claim 1. Claims 6, 11, and 13 depend from claim 1 and should be allowable for at least similar reason as claim 1 and for the additional limitations they recite. As amended, claim 17 is allowable because claim 17 has similar limitation as claim 1.


In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an

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early date is respectfully requested. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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